

Regional Transmittal Form

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION VDATE: 6/10/09SUBJECT: Review of Data
Received for review on 5/29/09FROM: Stephen L. Ostrodka, Chief (SRT-4J)
Superfund Field Services SectionTO: Data User: IDEM

We have reviewed the data by CADRE for the following case:

SITE NAME: Gary Development Co Inc (IN)CASE NUMBER: 38525 SDG NUMBER: ME2QQ1Number and Type of Samples: 20 soilsSample Numbers: ME2QQ1-Q8, R1-R9, S0-S2Laboratory: SVL Analytical Hrs. for Review: _____

Following are our findings:

CC: Howard Pham
Region 5 TOPO
Mail Code: SRT-4J

Below is a summary of the out-of-control audits and the possible effects on the data for this case:

Twenty (20) soil samples, numbered ME2QQ1-Q8, R1-R9, S0-S2, were collected on May 5, 2009. The lab received the samples on May 7, 2009. Although the cooler containing the samples was outside the required temperature range, no sample results are qualified for this deficiency. All samples were analyzed for metals. All samples were analyzed using the CLP SOW ILM05.4 analysis procedures.

Mercury analysis was performed using a Cold Vapor AA Technique. The remaining inorganic analyses were performed using an Inductively Coupled Plasma-Atomic Emission Spectroscopy (ICP-AES) procedure.

The Inorganic Traffic Report & Chain of Custody indicates that the samples were supposed to be analyzed by ICP-MS. ICP-MS analysis of soil samples is not allowed under CLP. The samples were analyzed using ICP-AES.

1. HOLDING TIME:

The inorganic soil samples were reviewed for holding time violations using criteria developed for water samples. No defects were found.

2. CALIBRATIONS:

No defects were found for the calibration or the CRQL standards.

3. BLANKS:

The following inorganic samples are associated with an ICB/CCB or preparation blank concentration which is greater than the method detection limit (MDL). The sample result is greater than the MDL.

Hits less than the CRQL are qualified "U". The sample result is raised to the CRQL.

Hits greater than the CRQL but less than 5 times the blank are qualified "U" and reported at the sample value.

Beryllium

ME2QQ1, ME2QQ2, ME2QQ3, ME2QQ4, ME2QQ5, ME2QQ6, ME2QQ7,
ME2QQ8, ME2QR1, ME2QR2, ME2QR5

Magnesium

ME2QQ5

Silver

ME2QQ1, ME2QQ2, ME2QQ3, ME2QQ5, ME2QQ6, ME2QQ7, ME2QQ8,
ME2QR2, ME2QR7, ME2QR8, ME2QS1

Sodium

ME2QQ1, ME2QQ2, ME2QQ3, ME2QQ4, ME2QQ5, ME2QQ6, ME2QQ7,
ME2QQ8, ME2QR5, ME2QR6, ME2QR7, ME2QR8

The following inorganic samples are associated with an ICB/CCB concentration which is greater than the method detection limit (MDL) and with a negative preparation blank whose absolute value is greater than the MDL. The sample result is greater than the MDL.

Hits less than the CRQL are qualified "U". The sample result is raised to the CRQL.

Hits greater than the CRQL but less than 5 times the blank are qualified "U" and reported at the sample value.

Selenium

ME2QR1

The following inorganic samples are associated with a negative ICB/CCB or preparation blank concentration whose absolute value is greater than the method detection limit (MDL). The sample result is also greater than the MDL.

Hits less than 5 times the blank are qualified "J-".

Cadmium

ME2QQ2, ME2QR2, ME2QR6, ME2QS2

The following inorganic samples are associated with a negative ICB/CCB or preparation blank concentration whose absolute value is greater than the method detection limit (MDL). The sample result is also greater than the MDL. The samples are also associated with a positive ICSA (see below).

Hits less than 5 times the blank AND less than 10 times the ICSA are qualified "J".

Selenium

ME2QQ1, ME2QR9

4. MATRIX SPIKE/MATRIX SPIKE DUPLICATE AND LAB CONTROL SAMPLE:

The following inorganic samples are associated with a matrix spike recovery which is high (>125%) indicating that sample results may be biased high. The required post spike was performed and results were less than or equal to 125%.

Hits are qualified "J"; non-detects are not qualified.

Chromium

ME2QQ1, ME2QQ2, ME2QQ3, ME2QQ4, ME2QQ5, ME2QQ6, ME2QQ7,
ME2QQ8, ME2QR1, ME2QR2, ME2QR3, ME2QR4, ME2QR5, ME2QR6,
ME2QR7, ME2QR8, ME2QR9, ME2QS0, ME2QS1, ME2QS2

Copper

ME2QQ1, ME2QQ2, ME2QQ3, ME2QQ4, ME2QQ5, ME2QQ6, ME2QQ7,
ME2QQ8, ME2QR1, ME2QR2, ME2QR3, ME2QR4, ME2QR5, ME2QR6,
ME2QR7, ME2QR8, ME2QR9, ME2QS0, ME2QS1, ME2QS2

The following inorganic samples are associated with a matrix spike recovery which is low (30-74%) indicating that sample results may be biased low. The required post spike was performed and results were greater than or equal to 75%.

Hits are qualified "J" and non-detects are qualified "UJ".

Antimony

ME2QQ1, ME2QQ2, ME2QQ3, ME2QQ4, ME2QQ5, ME2QQ6, ME2QQ7,
ME2QQ8, ME2QR1, ME2QR2, ME2QR3, ME2QR4, ME2QR5, ME2QR6,
ME2QR7, ME2QR8, ME2QR9, ME2QS0, ME2QS1, ME2QS2

The following inorganic samples are associated with a matrix spike recovery which is low (30-74%) indicating that sample results may be biased low. No post spike was required.

Hits are qualified "J-" and non-detects are qualified "UJ".

Mercury

ME2QQ1, ME2QQ2, ME2QQ3, ME2QQ4, ME2QQ5, ME2QQ6, ME2QQ7,
ME2QQ8, ME2QR1, ME2QR2, ME2QR3, ME2QR4, ME2QR5, ME2QR6,
ME2QR7, ME2QR8, ME2QR9, ME2QS0, ME2QS1, ME2QS2

No defects were found for the laboratory control sample.

5. LABORATORY AND FIELD DUPLICATE:

The following inorganic samples are associated with duplicate results which did not meet relative percent difference (RPD) primary criteria. Region 5 uses 35%RPD control criteria for soil samples.

Hits are qualified "J" and non-detects are qualified "UJ".

Copper

ME2QQ1, ME2QQ2, ME2QQ3, ME2QQ4, ME2QQ5, ME2QQ6, ME2QQ7,
ME2QQ8, ME2QR1, ME2QR2, ME2QR3, ME2QR4, ME2QR5, ME2QR6,
ME2QR7, ME2QR8, ME2QR9, ME2QS0, ME2QS1, ME2QS2

No samples were identified as field duplicates.

6. ICP ANALYSIS:

The following inorganic samples are associated with an ICP serial dilution percent difference which is not in control.

Hits are qualified "J" and non-detects are qualified "UJ".

Copper

ME2QQ1, ME2QQ2, ME2QQ3, ME2QQ4, ME2QQ5, ME2QQ6, ME2QQ7,
ME2QQ8, ME2QR1, ME2QR2, ME2QR3, ME2QR4, ME2QR5, ME2QR6,
ME2QR7, ME2QR8, ME2QR9, ME2QS0, ME2QS1, ME2QS2

The following inorganic sample results are affected by an interference check "A" sample (ICSA) for which false positive concentration values greater than the MDL were obtained. The sample contains Al, Ca, Fe, or Mg at a level comparable to the ICSA.

Hits less than 10 times the value of the ICSA are qualified "J+"; non-detects are not qualified. Hits greater than 10 times the ICSA are not qualified.

Beryllium

ME2QS0

Cobalt

ME2QQ1

The following results are affected by an interference check "A" sample (ICSA) for which false positive concentration values greater than the MDL were obtained. The sample contains Al, Ca, Fe or Mg at a level comparable to that of the ICSA. The samples are also associated with a negative ICB/CCB or preparation blank concentration whose absolute value is greater than the MDL (see above).

Hits less than 10 times the absolute value of the ICSA AND less than 5 times the blank value are qualified "J".

Selenium

ME2QQ1, ME2QR9

The following results are affected by an interference check "A" sample (ICSA) for which false negative concentration values greater than the absolute value of the MDL were obtained. The sample contains Al, Ca, Fe or Mg at a level comparable to that of the ICSA.

Hits less than 10 times the absolute value of the ICSA are qualified "J-"; non-detects are qualified "UJ". Hits greater than 10 times the ICSA are not qualified.

Antimony

ME2QQ1, ME2QQ8, ME2QR1, ME2QR2, ME2QR3

Cadmium

ME2QQ1, ME2QQ2, ME2QQ4, ME2QQ8, ME2QR1, ME2QR2, ME2QR3,
ME2QR4, ME2QR5, ME2QR6, ME2QR7, ME2QR8, ME2QR9, ME2QS0,
ME2QS2

The following inorganic samples are associated with negative sample results whose absolute values are greater than the CRQL, indicating interference.

Non-detects are qualified "R".

Cadmium

ME2QR3, ME2QR4, ME2QR5, ME2QR9

The following inorganic samples are associated with negative sample results whose absolute values are greater than the CRQL, indicating interference. Dilutions performed for other elements were no longer greater than the CRQL. Undiluted results would have been considered rejected "R"; reported results were changed to diluted values by this reviewer. Detection limits for reported results are elevated.

Non-detects are qualified "U".

Cadmium

ME2QS0

7. SAMPLE RESULTS:

The following inorganic samples have analyte concentrations reported above the method detection limit (MDL) but below the quantitation limit (CRQL).

Results are qualified "J".

Antimony

ME2QQ1, ME2QQ3, ME2QQ4, ME2QQ5, ME2QQ6, ME2QQ7, ME2QQ8,
ME2QR1, ME2QR2, ME2QR3, ME2QR4, ME2QR5, ME2QR6, ME2QR7,
ME2QR8, ME2QR9, ME2QS1, ME2QS2

Beryllium

ME2QS0, ME2QS1, ME2QS2

Cadmium

ME2QQ2, ME2QQ3, ME2QQ7, ME2QR2, ME2QR6, ME2QR7, ME2QS2

Cobalt

ME2QQ1, ME2QQ3, ME2QQ4, ME2QQ5, ME2QQ6, ME2QQ7, ME2QQ8,
ME2QR1, ME2QR2, ME2QR7, ME2QR8, ME2QS1

Mercury

ME2QQ5, ME2QQ7, ME2QR5, ME2QR7, ME2QS1

Potassium

ME2QQ1, ME2QQ2, ME2QQ3, ME2QQ4, ME2QQ5, ME2QQ6, ME2QQ7,
ME2QQ8

Selenium

ME2QQ1, ME2QR9

Thallium

ME2QQ2, ME2QQ4, ME2QQ8, ME2QR2, ME2QR3, ME2QR4, ME2QR6,
ME2QR7, ME2QR9, ME2QS0, ME2QS2

All data, except those qualified above, are acceptable.

CADRE ILM05.4 Data Qualifier Sheet

<u>Qualifiers</u>	<u>Data Qualifier Definitions</u>
U	The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
J	The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
J+	The result is an estimated quantity, but the result may be biased high.
J-	The result is an estimated quantity, but the result may be biased low.
R	The data are unusable. The sample results are rejected due to serious deficiencies in meeting Quality Control (QC) criteria. The analyte may or may not be present in the sample.
UJ	The analyte was analyzed for, but not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

Analytical Results (Qualified Data)

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Case #: 38525

SDG : ME2QQ1

Site :

GARY DEV CO INC

Number of Soil Samples : 20

Lab. :

SVL

Number of Water Samples : 0

Reviewer :

S. CONNET

Date :

06/10/2009

Sample Number :	ME2QQ1		ME2QQ2		ME2QQ3		ME2QQ4		ME2QQ5	
Sampling Location :	SDA1		SDA2		SDB1		SDB2		SDC1	
Matrix :	Soil		Soil		Soil		Soil		Soil	
Units :	mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg	
Date Sampled :	5/5/2009		5/5/2009		5/5/2009		5/5/2009		5/5/2009	
Time Sampled :										
%Solids :	21.6		38.4		28.3		29.1		47.5	
Dilution Factor :	1.0		1.0		1.0		1.0		1.0	
ANALYTE	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
ALUMINUM	8740		4520		6130		14400		3280	
ANTIMONY	4.4	J	29.3	J	3.5	J	17.8	J	3.4	J
ARSENIC	18.5		155		5.0		71.4		8.9	
BARIUM	152		179		207		160		55.3	J
BERYLLIUM	2.3	U	1.3	U	1.8	U	1.7	U	1.1	U
CADMIUM	2.3	UJ	0.091	J	0.88	J	7.0	J	1.1	U
CALCIUM	19500		13000		15000		25800		6680	
CHROMIUM	185	J	472	J	38.1	J	240	J	17.3	J
COBALT	5.6	J+	23.6		2.7	J	15.4	J	1.2	J
COPPER	200	J	2120	J	81.4	J	270	J	28.4	J
IRON	79000		143000		16500		278000		12900	
LEAD	291		1690		324		784		83.5	
MAGNESIUM	5660		2210		4070		7850		1050	U
MANGANESE	890		767		345		2530		159	
MERCURY	0.53	J-	0.51	J-	0.51	J-	0.55	J-	0.19	J-
NICKEL	71.4		413		17.7		96.5		12.0	
POTASSIUM	745	J	495	J	389	J	1040	J	188	J
SELENIUM	4.4	J	9.1	U	12.4	U	12.0	U	7.4	U
SILVER	4.6	U	2.6	U	3.5	U	3.8		2.1	U
SODIUM	2310	U	1300	U	1770	U	1720	U	1050	U
THALLIUM	11.6	U	2.4	J	8.8	U	4.7	J	5.3	U
VANADIUM	49.6		27.7		24.0		53.6		13.0	
ZINC	1020		1080		439		2810		223	

Analytical Results (Qualified Data)

Case #: 38525
Site :
Lab :
Reviewer :
Date :

SDG : ME2QQ1
GARY DEV CO INC
SVL
S. CONNET
06/10/2009

Sample Number :	ME2QQ6		ME2QQ7		ME2QQ8		ME2QR1		ME2QR2	
Sampling Location :	SDC2		SDD1		SDD2		SDE1		SDE2	
Matrix :	Soil		Soil		Soil		Soil		Soil	
Units :	mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg	
Date Sampled :	5/5/2009		5/5/2009		5/5/2009		5/5/2009		5/5/2009	
Time Sampled :										
%Solids :	35.1		17.4		19.0		32.0		26.9	
Dilution Factor :	1.0		1.0		1.0		1.0		1.0	
ANALYTE	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
ALUMINUM	5320		7650		13000		13700		13400	
ANTIMONY	2.5	J	4.4	J	6.9	J	3.8	J	4.1	J
ARSENIC	10.9		10.9		35.7		18.2		18.0	
BARIUM	105		234		197		142		140	
BERYLLIUM	1.4	U	2.9	U	2.6	U	1.6	U	1.9	U
CADMIUM	1.4	U	1.2	J	2.6	UJ	1.6	UJ	0.13	J
CALCIUM	10000		21600		70200		18400		20100	
CHROMIUM	15.2	J	42.2	J	100	J	444	J	415	J
COBALT	1.7	J	4.7	J	16.0	J	10.9	J	10.5	J
COPPER	27.4	J	94.8	J	132	J	185	J	178	J
IRON	14500		28100		124000		94300		89500	
LEAD	65.2		362		341		406		387	
MAGNESIUM	1460		4680		22700		12800		13000	
MANGANESE	187		332		1770		837		809	
MERCURY	1.4	J	0.17	J	0.53	UJ	0.47	J	0.48	J
NICKEL	15.2		27.3		76.1		79.6		77.9	
POTASSIUM	469	J	558	J	1400	J	9630		10700	
SELENIUM	10.0	U	20.1	U	18.4	U	10.9	U	13.0	U
SILVER	2.8	U	5.7	U	5.3	U	3.2		3.7	U
SODIUM	1420	U	2870	U	2630	U	6490		7870	
THALLIUM	7.1	U	14.4	U	3.2	J	7.8	U	2.1	J
VANADIUM	16.1		29.5		46.4		45.8		44.9	
ZINC	183		643		1060		1620		1540	

Analytical Results (Qualified Data)

Case #: 38525
Site :
Lab :
Reviewer :
Date :

SDG : ME2QQ1
GARY DEV CO INC
SVL
S. CONNET
06/10/2009

Sample Number :	ME2QR3		ME2QR4		ME2QR5		ME2QR6		ME2QR7	
Sampling Location :	SDF1		SDF2		SDG1		SDG2		SDH1	
Matrix :	Soil		Soil		Soil		Soil		Soil	
Units :	mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg	
Date Sampled :	5/5/2009		5/5/2009		5/5/2009		5/5/2009		5/5/2009	
Time Sampled :										
%Solids :	35.2		37.4		68.6		48.3		78.9	
Dilution Factor :	1.0		1.0		1.0		1.0		1.0	
ANALYTE	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
ALUMINUM	12400		9930		11000		16600		11000	
ANTIMONY	9.2	J-	8.1	J	0.72	J	6.0	J	1.5	J
ARSENIC	47.4		44.6		5.6		24.1		6.4	
BARIUM	135		131		118		343		155	
BERYLLIUM	1.7		1.3		0.73	U	1.3		1.0	
CADMIUM	1.4	R	1.3	R	0.73	R	0.21	J-	0.63	J-
CALCIUM	12900		10500		35400		33600		46400	
CHROMIUM	1580	J	1490	J	28.3	J	690	J	82.0	J
COBALT	16.5		15.3		8.3		11.0		5.7	J
COPPER	328	J	303	J	66.5	J	420	J	128	J
IRON	262000		235000		19800		108000		24900	
LEAD	1070		1010		35.6		726		93.3	
MAGNESIUM	4870		4290		18600		14700		18700	
MANGANESE	2340		1990		603		1480		1340	
MERCURY	1.2	J-	1.2	J-	0.073	J-	0.66	J-	0.070	J-
NICKEL	189		172		30.1		197		34.3	
POTASSIUM	9250		7950		1760		1820		1330	
SELENIUM	9.9	U	9.4	U	5.1	U	7.2	U	4.4	U
SILVER	7.2		7.0		1.5	U	5.4		1.3	U
SODIUM	9520		8930		729	U	1040	U	634	U
THALLIUM	4.7	J	4.3	J	3.6	U	2.1	J	0.97	J
VANADIUM	46.9		42.0		24.1		49.5		40.7	
ZINC	2940		2800		115		2790		500	

Analytical Results (Qualified Data)

Case #: 38525
Site :
Lab. :
Reviewer :
Date :

SDG : ME2QQ1
GARY DEV CO INC
SVL
S. CONNET
06/10/2009

Sample Number :	ME2QR8		ME2QR9		ME2QS0		ME2QS1		ME2QS2	
Sampling Location :	SDH2		SDI1		SDI2		SDJ1		SDJ2	
Matrix :	Soil		Soil		Soil		Soil		Soil	
Units :	mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg	
Date Sampled :	5/5/2009		5/5/2009		5/5/2009		5/5/2009		5/5/2009	
Time Sampled :										
%Solids :	80.0		40.6		43.7		26.2		52.6	
Dilution Factor :	1.0		1.0		1.0		1.0		1.0	
ANALYTE	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
ALUMINUM	10500		12300		7060		13300		6740	
ANTIMONY	1.7	J	10.8	J	18.4	J	2.7	J	8.5	J
ARSENIC	3.4		47.3		67.1		7.1		47.6	
BARIUM	113		223		94.2		130		129	
BERYLLIUM	1.1		1.4		0.94	J+	0.80	J	0.93	J
CADMIUM	0.63	UJ	1.2	R	5.7	UJ	1.9	U	0.31	J
CALCIUM	51100		6850		4130		23300		5540	
CHROMIUM	128	J	1720	J	2030	J	77.0	J	882	J
COBALT	3.5	J	12.5		11.8		5.8	J	11.6	
COPPER	144	J	400	J	490	J	195	J	340	J
IRON	16000		242000		179000		23600		95100	
LEAD	190		1740		1250		145		1260	
MAGNESIUM	20900		5070		1990		12700		2960	
MANGANESE	964		2370		766		289		537	
MERCURY	0.17	J-	1.5	J-	1.0	J-	0.11	J-	0.47	J-
NICKEL	30.4		169		225		39.9		171	
POTASSIUM	1080		3530		2530		8950		3560	
SELENIUM	4.4	U	2.4	J	8.0	U	13.4	U	6.7	U
SILVER	1.3	U	11.7		5.2		3.8	U	3.5	
SODIUM	625	U	1800		2820		4790		2120	
THALLIUM	3.1	U	2.9		4.1	J	9.5	U	4.0	J
VANADIUM	18.9		51.6		32.7		33.1		28.9	
ZINC	241		6340		1400		433		2560	